



Optimal Solutions for the Future

PUMA 600/700/800 series



**Doosan's Large
Horizontal Turning
Center with 2-axis
to Y-axis Machining
Capability**

**PUMA 600 series
PUMA 700 series
PUMA 800 series**

ver. EN 160216 SU

Basic Information

Basic Structure
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Performance

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Information

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PUMA 600/700/800 series

PUMA 600/700/800 series is a large horizontal turning center ideally designed for machining pipes and flanges used in oil and gas industry, hydraulic parts used in construction equipment, and also complex parts used in aircraft and ship building industry. Its maximum turning diameter and length are Ø900mm and 5050mm, respectively, which is the highest in its class. The slant bed design allows easy chip disposal.



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Single setup for machining large complex parts.

- Maximum productivity can be achieved with the 200mm (± 100 mm) orthogonal Y axis structure, which allows users to machine variety of large and complex part.

Boasting the largest machining area and top performance in its class, PUMA 600/700/800 series is perfect for machining large work pieces.

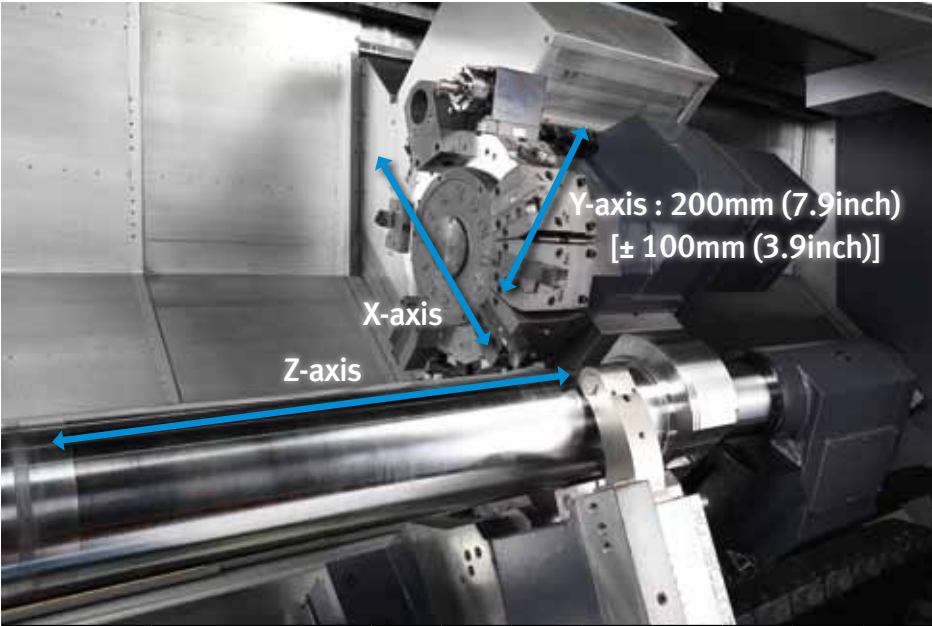
- With 5m maximum turning length, $\varnothing 900$ mm maximum turning diameter, and 11,004N·m of Torque, machine is ideal for heavy-duty cutting of large parts used in different industries.

Machining Solution for wide range of pipes.

- $\varnothing 375$ mm maximum spindle through hole diameter makes it ideal for turning large diameter pipes.
- Wide range of solution to improve threading performance and reduce failure ratio.

Basic Structure

Machine capability ranges from 2-axis to Y axis, which allows single setup to maximize productivity of machining large diameter parts.

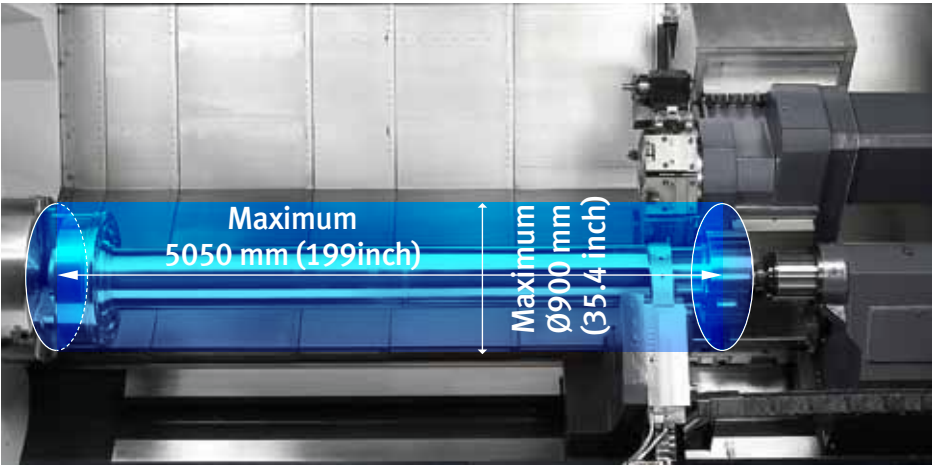


| Series | Chuck* Size (inch) | 1600 mm (63 inch) | | | 3200 mm (126 inch) | | | 5050 mm (199 inch) | | |
|-----------|-----------------------|-------------------|---|---|--------------------|---|---|--------------------|---|---|
| | | 2-axis | M | Y | 2-axis | M | Y | 2-axis | M | Y |
| PUMA 600 | 18 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 |
| PUMA 700 | 24 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 |
| PUMA 800 | 32 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 |
| PUMA 800B | Order made | 0 | - | - | 0 | - | - | - | - | - |

*Chuck and chuck cylinder are optional features.

Machining area

The largest work envelop in its class with maximum turning diameter of Ø900 mm and maximum turning length of 5 m.



Max. turning diameter

Max. turning length

Ø900^{mm} (35.4inch)

5050^{mm} (199inch)

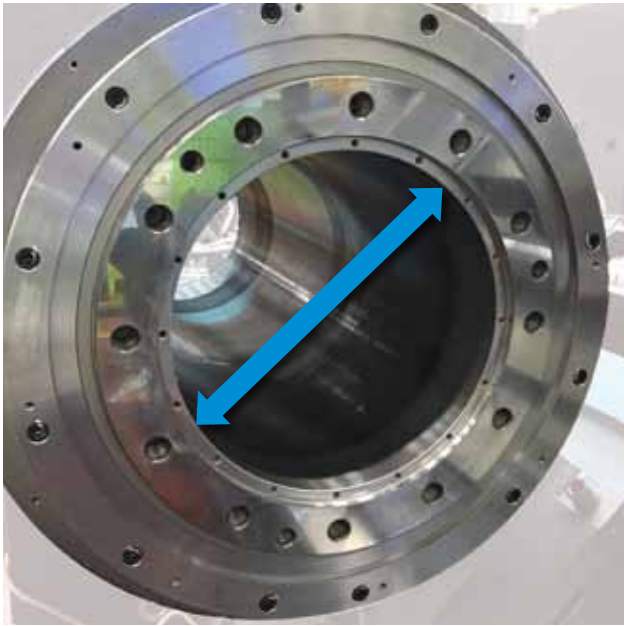
Unit: mm (inch)

| | Model | Max. turning diameter | Max. turning length |
|--------|---------------------------|-----------------------|---------------------|
| 2-axis | PUMA 600/700/800/800B | 900 (35.4) | 1600 (63) |
| | PUMA 600L/700L/800L/800LB | | 3200 (126) |
| | PUMA 600XL/700XL/800XL | | 5050 (199) |
| M | PUMA 600M/700M/800M | 900 (35.4) | 1600 (63) |
| | PUMA 600LM/700LM/800LM | | 3200 (126) |
| | PUMA 600XLM/700XLM/800XLM | | 5050 (199) |
| Y | PUMA 600LY/700LY/800LY | 750 (29.5) | 3250 (128) |
| | PUMA 600XLY/700XLY/800XLY | | 5050 (199) |



Machining area

Machine available in various spindle through hole sizes to provide adequate machining solutions for different size pipes.



Max. spindle through hole diameter

Ø375mm
(14.8 inch)

Unit: mm (inch)

| Series | Max. spindle through hole diameter |
|-----------|------------------------------------|
| PUMA 600 | 152 (6.0) |
| PUMA 700 | 181 (7.1) |
| PUMA 800 | 320 (12.6) |
| PUMA 800B | 375 (14.8) |



Spindle

The gearbox design allows PUMA 600/700/800 spindle to have unparalleled power and torque, which boosts productivity with extreme heavy-duty cutting capability.



Max. spindle speed

750r/min

Max. spindle power (30 min / Cont.)

45/37kW
(60.3/49.6 hp)

75/60kW option
(100.1/80.5 hp)

Max. spindle torque

6605N·m
(4871.6 lbf·ft)

11004N·m option
(8116.1 lbf·ft)

PUMA 800 series

| Series | Max. spindle speed | Max. spindle power (30min/Cont.) | Max. spindle torque |
|-----------|--------------------|---|---|
| PUMA 600 | 1800 r/min | 45/37 kW (60.3/49.6 hp) 75/60 kW (100.1/80.5 hp) <small>option</small> | 5419 N·m (3996.8 lbf·ft) 9025 N·m (6656.5 lbf·ft) <small>option</small> |
| PUMA 700 | 1500 r/min | | 6605 N·m (4871.6 lbf·ft) 11004 N·m (8116.1 lbf·ft) <small>option</small> |
| PUMA 800 | 750 r/min | | |
| PUMA 800B | 500 r/min | | |

Tailstock

Standard programmable tailstock gives you the ability to easily adjust position of the tailstock for different work pieces to minimize setup time.



Tailstock travel

1550mm
(61 inch)

3135mm* (L)
(123 inch)

4885mm (XL)
(192 inch)

Unit: mm (inch)

| Model | Quill diameter | Quill travel |
|-----------------------|----------------|--------------|
| PUMA 600/M/L/LM | 160 (6.3) | 150 (5.9) |
| PUMA 700/M/L/LM | | |
| PUMA 800/M/L/LM | | |
| PUMA 800B/LB | 180 (7.1) | 200 (7.9) |
| PUMA 600LY/XL/XLM/XLY | | |
| PUMA 700LY/XL/XLM/XLY | | |
| PUMA 800LY/XL/XLM/XLY | | |

* Tailstock travel of PUMA 600/700/800LY is 3085mm(121.5inch).

Turret

Doosan’s unique BMT85P design turret is used on M and Y-Axis models to boost heavy-duty cutting performance.



2-axis model

No. of tool stations

12stations



M,Y Model

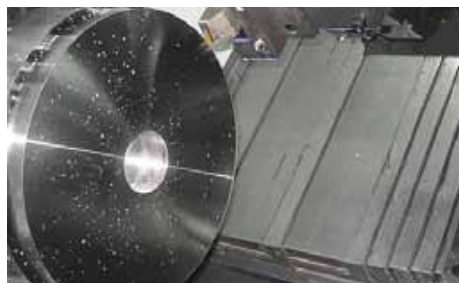
BMT85P

No. of tool stations

12stations

Cutting performance

PUMA 600/700/800 series can perform excellent heavy-duty machining in many different ways such as ID/ OD turning, end milling, tapping, and U-drilling, to maximize productivity.



O.D turning (Material diameter Ø 380 mm)

| | |
|-------------------|---------------------------|
| Speed | 230 m/min |
| Feed | 0.6 mm/rev |
| Depth of cut | 10 mm |
| Chip Removal rate | 1418 cm ³ /min |



Tapping

| | |
|---------------|------------|
| Cutting Tool | M33 x P3.5 |
| Cutting speed | 15 m/min |
| Feed | 3.5 mm/rev |



U-Drill (3-axis)

| | |
|-------------------|--------------------------|
| Cutting Tool | Ø 30 mm |
| Spindle Load | 2000 m/min |
| Feed | 0.12 mm/rev |
| Chip Removal rate | 171 cm ³ /min |



End mill (Low Speed)

| | |
|-------------------|--------------------------|
| Cutting Tool | Ø 32 mm |
| Spindle Load | 30 m/min |
| Feed | 90 mm/min |
| Chip Removal rate | 105 cm ³ /min |



End mill (High Speed)

| | |
|-------------------|--------------------------|
| Cutting Tool | Ø 25 mm |
| Spindle Load | 220 m/min |
| Feed | 1000 mm/min |
| Chip Removal rate | 175 cm ³ /min |



Helical End Milling

| | |
|-------------------|--------------------------|
| Cutting Tool | Ø 25 mm |
| Spindle Load | 240 m/min |
| Feed | 800 mm/min |
| Chip Removal rate | 100 cm ³ /min |

* The results, indicated in this catalogue are provides as example. They may not be obtained due to differences in cutting conditions and environmental conditions during measurement.

Standard/Optional features

● Standard ○ Option △Contact DOOSAN X N/A

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| Division | | Items | | PUMA 600 series | | PUMA 700 series | | PUMA 800 series | | |
|----------|--------------------------|--|---|-----------------|---|-----------------|---|-----------------|---|----------------|
| | | | | 2-axis / M | Y | 2-axis / M | Y | 2-axis / M | Y | Big bore(B/LB) |
| 1 | Chuck | None | | ● | ● | ● | ● | ● | ● | ● |
| 2 | | 18 inch | | ○ | ○ | X | X | X | X | X |
| 3 | | 21 inch | | ○ | ○ | X | X | X | X | X |
| 4 | | 24 inch | | X | X | ○ | ○ | X | X | X |
| 5 | | 32 inch | | X | X | X | X | △ | △ | X |
| 6 | Jaw | Soft Jaws | | ○ | ○ | ○ | ○ | △ | △ | △ |
| 7 | | Hardened & ground hard jaws | | ○ | ○ | ○ | ○ | △ | △ | △ |
| 8 | Chucking option | Single pressure chucking | | ● | ● | ● | ● | ● | ● | ● |
| 9 | | Dual pressure chucking | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 10 | | Chuck clamp confirmation | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 11 | Steady rest* | Manual | Ø35 ~ Ø330 mm (Ø1.4 ~ Ø13.0 inch) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 12 | | | Ø300 ~ Ø450 mm (Ø11.8 ~ Ø17.7 inch) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 13 | | Hydraulic or Prammable | Ø35 ~ Ø245 mm (SLU-4) (Ø1.4 ~ Ø9.6 inch) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 14 | | | Ø45 ~ Ø310 mm (SLU-5) (Ø1.8 ~ Ø12.2 inch) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 15 | | | Ø85 ~ Ø350 mm (SLU-5.1) (Ø3.3 ~ Ø13.8 inch) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 16 | | | Ø80 ~ Ø390 mm (K 5) (Ø3.1 ~ Ø15.4 inch) | △ | △ | △ | △ | △ | △ | △ |
| 17 | | | Ø100 ~ Ø410 mm (K 5.1) (Ø3.9 ~ Ø16.1 inch) | △ | △ | △ | △ | △ | △ | △ |
| 18 | | Type | Single | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 19 | | | Twin | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 20 | | | Double | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 21 | Tailstock | Programmable type | | ● | ● | ● | ● | ● | ● | ● |
| 22 | | Live center | | ● | ● | ● | ● | ● | ● | ● |
| 23 | | Built-in dead center | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 24 | Coolant pump (60/50Hz) | 4.5/3.0 bar | | ● | ● | ● | ● | ● | ● | ● |
| 25 | | 7/5, 10/7, 14.5/10, 28/19.5, 70/70 bar | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 26 | Coolant options | Oil skimmer | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 27 | | Coolant chiller | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 28 | | Coolant pressure switch | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 29 | | Coolant level switch | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 30 | | Coolant gun | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 31 | Chip disposal | Chip conveyor (Right side) | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 32 | | Chip bucket | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 33 | | Air blower for chuck | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 34 | | Mist collector interface (Duct only) | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 35 | | Integrated mist collector | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 36 | Measurement & Automation | Tool setter | Manual | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 37 | | | Automatic | ○ | ○ | ○ | ○ | X | X | X |
| 38 | | Auto door | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 39 | Others | Doosan Tool load monitoring system | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 40 | | Signal tower | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 41 | | Air gun | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 42 | | Automatic power off | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 43 | | Air unit for air chuck | Single | X | X | X | X | ○ | X | ○ |
| 44 | | | Twin | X | X | X | X | ○ | X | ○ |

Peripheral equipments

Long boring bar option



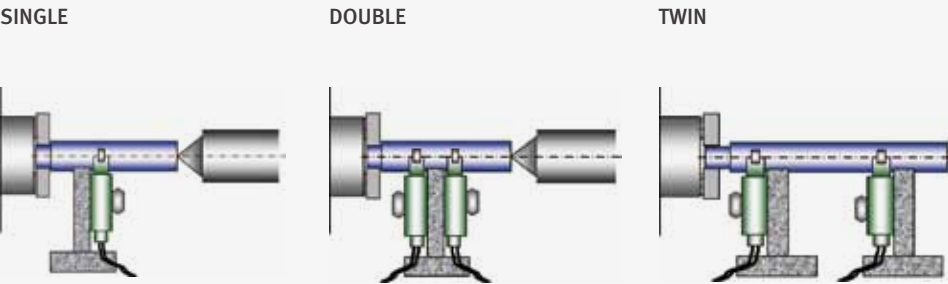
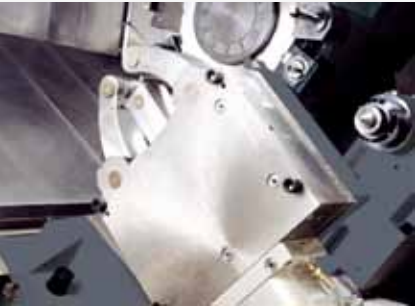
The long boring bar option allows you to easily machine deep holes to minimize cycle time. Please consult with Doosan specialist for details.

Twin chucking option



For more stable pipe threading process, twin chucking option(manual or pneumatic) is available. Please consult with Doosan specialist for details.

Steady rest option



For turning a part with extensive length, various types of hydraulic steady rests(Single, Double or Twin type) are available.

Chip conveyor (Right side) option



| Chip conveyor type | Material | Description |
|--------------------|-----------|--|
| Hinged belt | Steel | Hinged belt chip conveyor, which is most commonly used for steel work(for cleaning chips longer than 30mm), is available as an option. |
| Magnetic scraper | Cast Iron | Magnetic scraper type chip conveyor, which is ideal for die-casting work(for cleaning small chips), is available as an option. |

Coolant tank



Standard bed: 470L
L: 570L (LY: 600L)
XL: 770L

Doosan's ergonomic roller coolant tank design, allows users to easily replace and refill coolant. Roller on the coolant tank allows users to simply take out and put it back in the machine like a drawer unit.

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FANUC 32i

Fanuc CNC is tuned ideally to PUMA 600/700/800 series, in order to maximize productivity.

User-friendly operation panel

The newly designed operation panel groups all of the common buttons together to enhance operator's convenience. Also, 'QWERTY' keypad is applied as standard to improve convenience of users who are accustomed to PC keyboards.



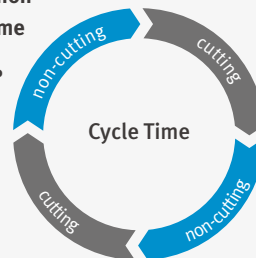
10.4" Display

- USB & PCMCIA card (Std.)
- Qwerty type keyboard
- Easy to put button switch for attached option
- Ergonomic new design

Easy Operation Package

Increase Productivity

Reduced non-cutting time
by **10%**



Minimizes non-cutting time to further improve productivity.

Operation rate



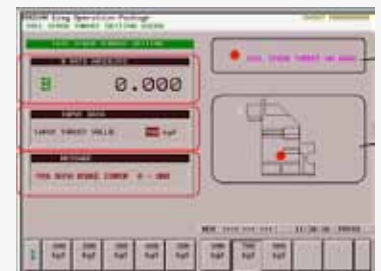
Function allows users to easily keep track of machine operating hours and the number of completed parts.

Tool load monitoring option



This function detects overload on tools, caused by wear and damage, and triggers an alarm to minimize damage.

Tail stock thrust force setting option



This function allows users to easily setup tailstock thrust force on the screen.



Stable threading performance

All PUMA 600/700/800 series (2-Axis* to Y-Axis) are capable of threading work.

*In order to re-machine threads or perform arbitrary speed threading on a 2-Axis machine, additional optional devices have to be selected.

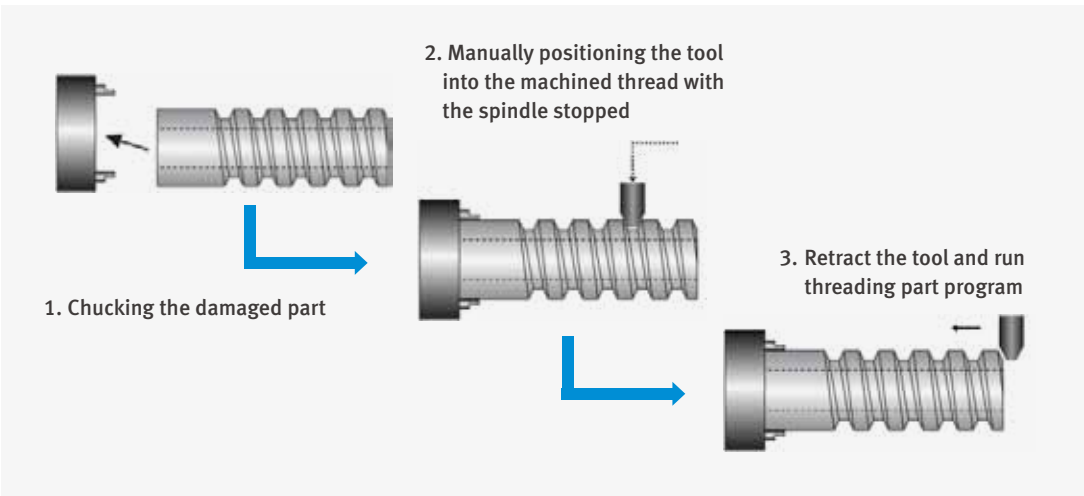
Threading repair function

This function allows users to repair thread even when original program is not available and this is a standard Fanuc NC function.



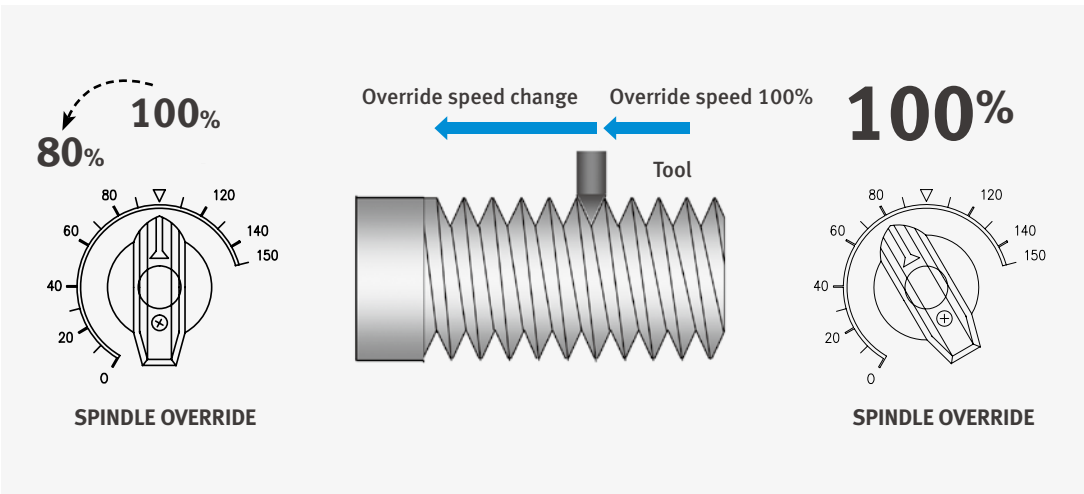
Re-machining function option

This function allows users to re-machine damaged threads by using the existing program.



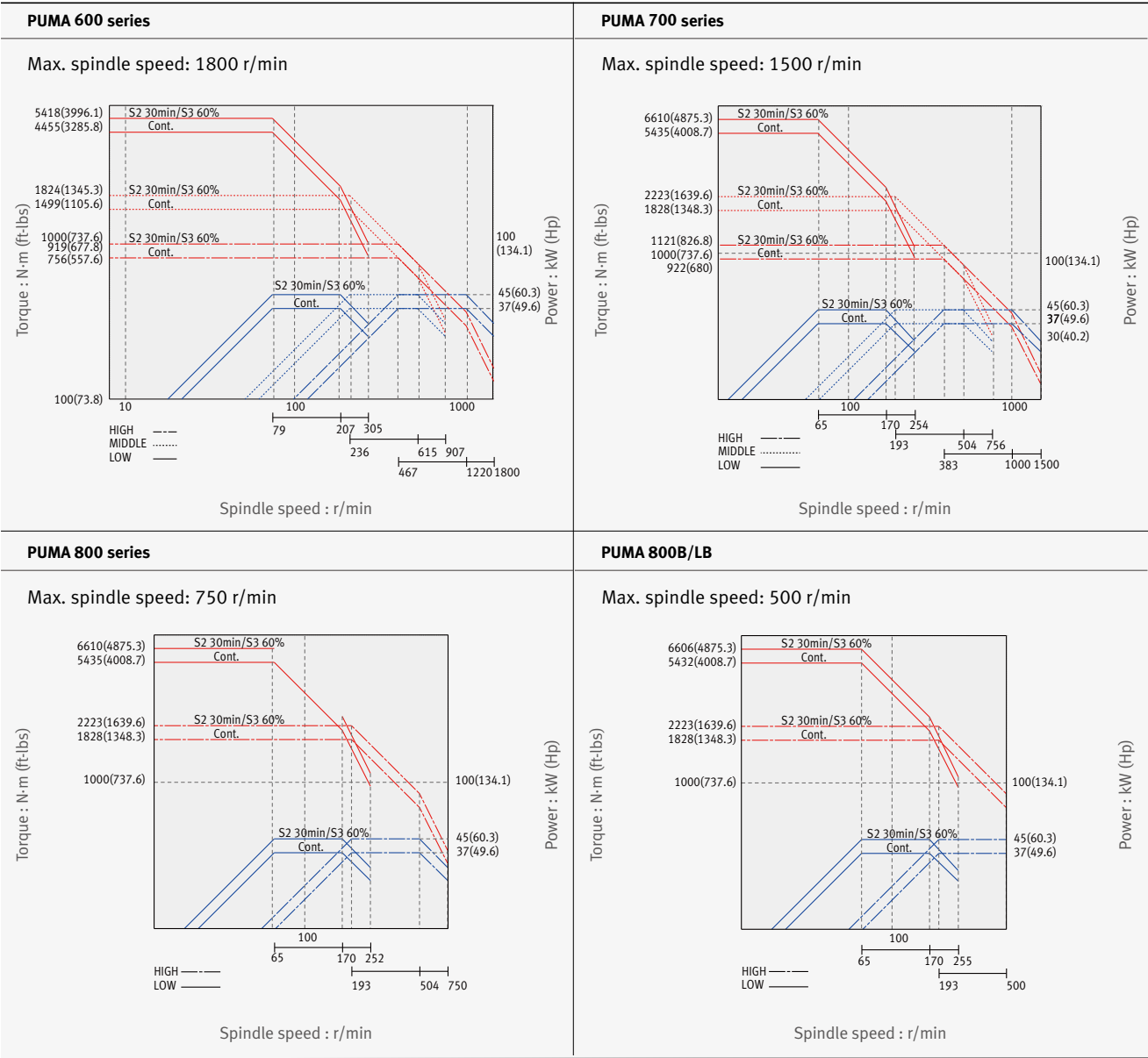
Arbitrary speed threading option

This function allows users to control spindle speed in order to set it at an ideal machining condition to keep the best thread quality.

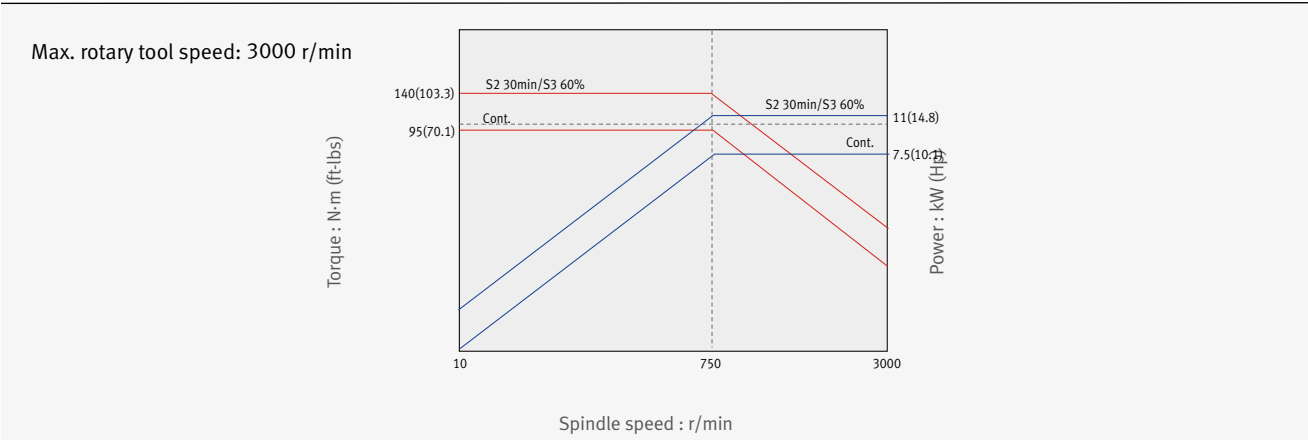


Power-Torque diagram

Spindle



Rotary tool

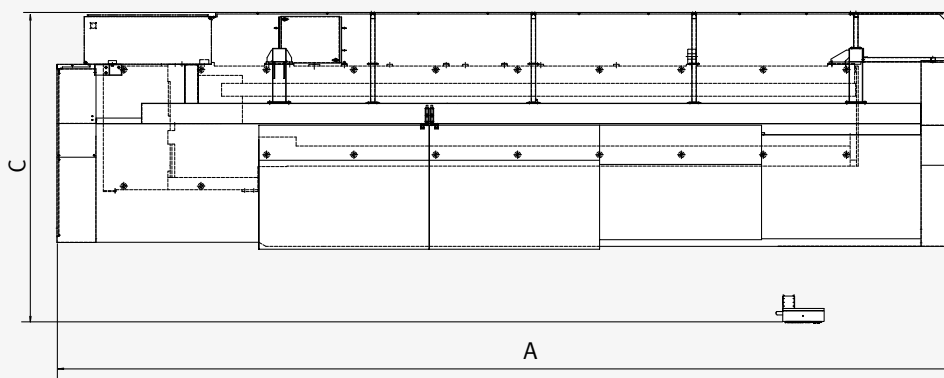


External dimensions

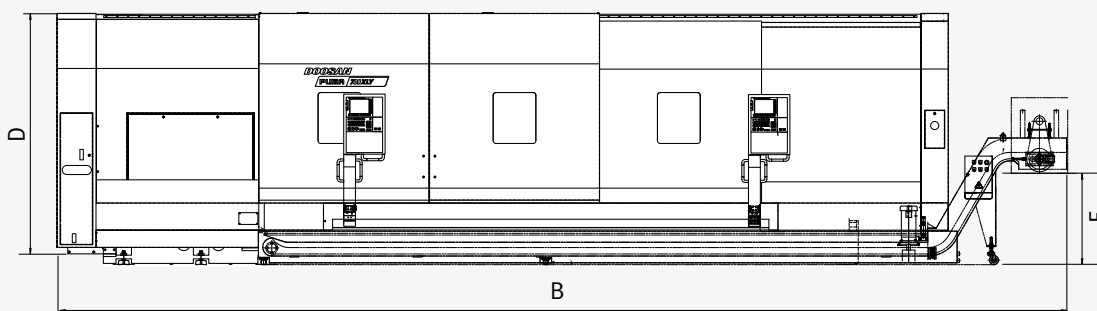
PUMA 600/700/800 series

Unit : mm (inch)

Top view



Front view



Unit : mm (inch)

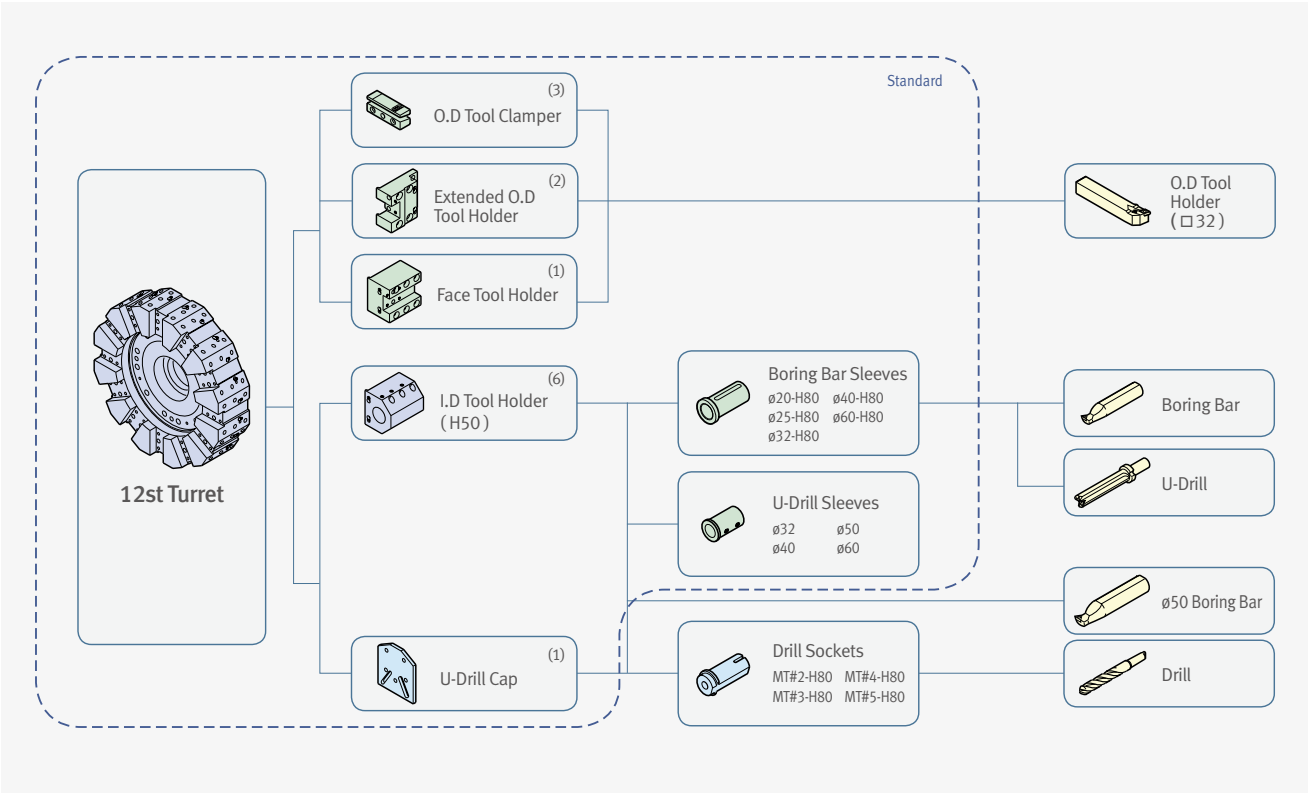
| Model | A (Length) | B* (Length with chip conveyor) | C (Width) | D (Height) | E |
|----------------------------|--------------|-----------------------------------|--------------|--------------|-------------|
| PUMA 600/700/800 [M] | 5760 (226.8) | 6911 (272.1) | 3145 (123.8) | 2780 (109.4) | 1020 (40.2) |
| PUMA 600L/700L/800L [M] | 7360 (289.8) | 8510 (355.0) | 2770 (109.1) | 2590 (102.0) | 1020 (40.2) |
| PUMA 600LY/700LY/800LY | 7430 (292.5) | 8592 (338.3) | 3090 (121.7) | 2770 (109.1) | 1005 (39.6) |
| PUMA 600XL/700XL/800XL [M] | 9860 (388.2) | 11010 (433.5) | 3090 (121.7) | 2770 (109.1) | 1020 (40.2) |
| PUMA600XLY/700XLY/800XLY | 9898 (389.7) | 11112 (437.5) | 3090 (121.7) | 2770 (109.1) | 1005 (39.6) |
| PUMA 800B | 5760 (526.8) | 6911 (272.1) | 3145 (123.8) | 2780 (109.4) | 1020 (40.2) |
| PUMA 800LB | 7360 (289.8) | 8510 (355.0) | 2770 (109.1) | 2590 (102.0) | 1020 (40.2) |

★ 500mm of a space is required to the right of the machine in order to install and remove chip conveyor.

Tooling system

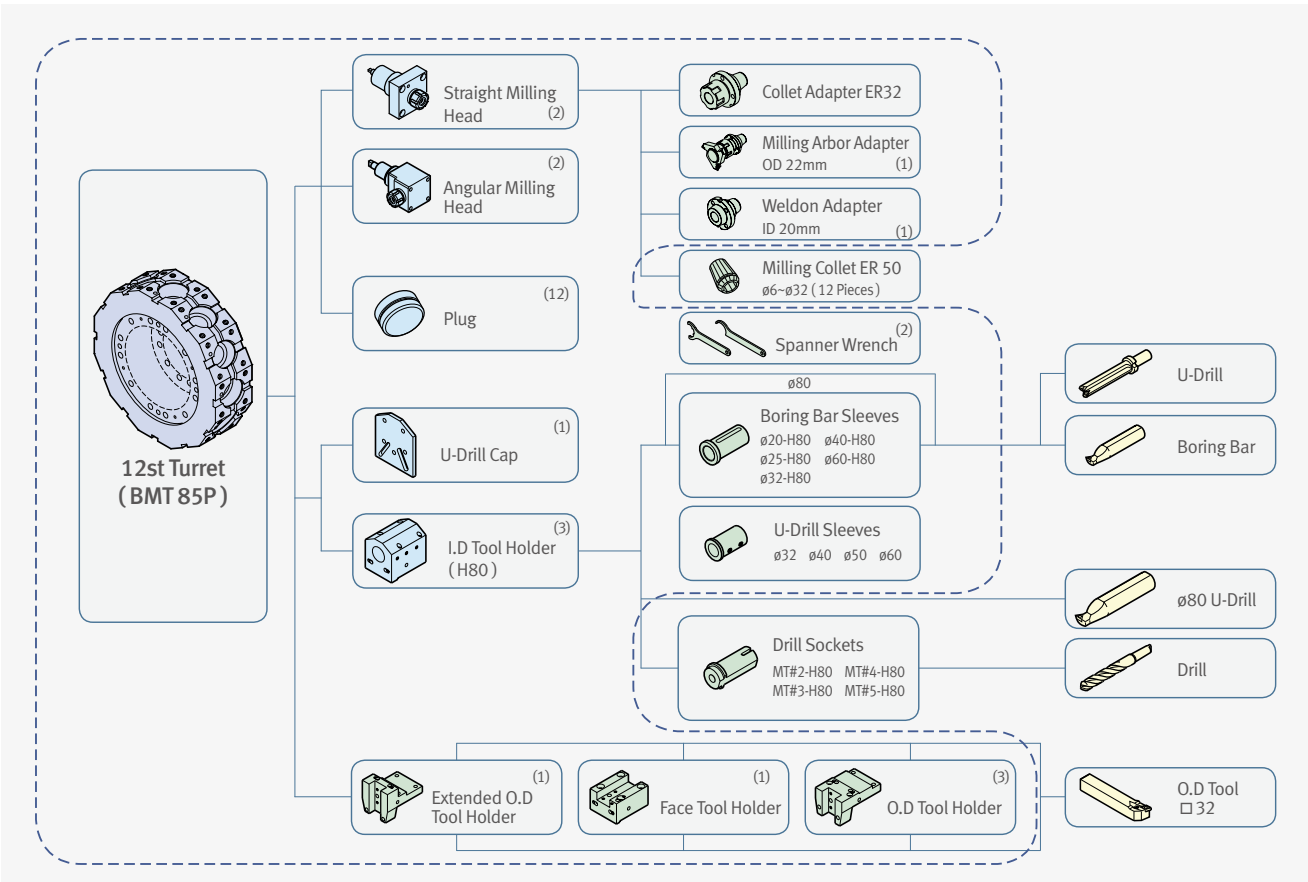
PUMA 600/700/800 [L/XL], PUMA 800B/LB

Unit : mm (inch)



PUMA 600M/700M/800M [LM/LY/XLM/XLY]

Unit : mm (inch)



PUMA 600/700/800 [L/XL], PUMA 800B/LB

Technical drawing of a 12-spoke wheel. The central hub has a diameter of $\varnothing 35.7$ (32.91) and a maximum tool swing of 1.75 (0.07). The spokes are arranged in a circular pattern with a diameter of $\varnothing 80.1$ (73.0). The outer rim has a diameter of $\varnothing 80$ (3.2). The wheel is shown with a maximum turning diameter of $\varnothing 200$ (39.4). Dimensions are given in mm (inches).

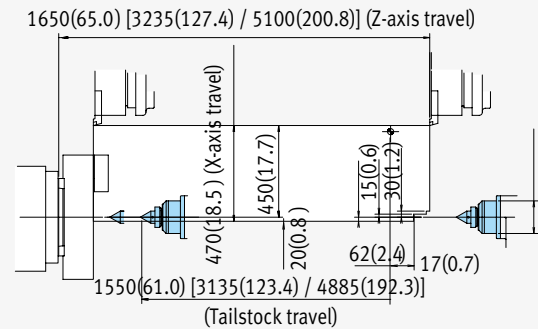
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Description

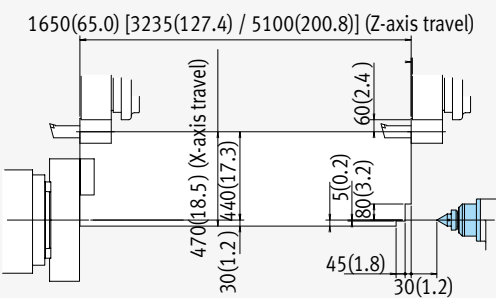
PUMA 600/700/800 [L/XL], PUMA 800B [LB]

Unit : mm (inch)

OD Tool Holder



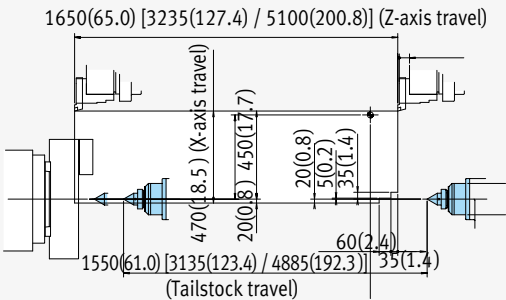
ID Tool holder



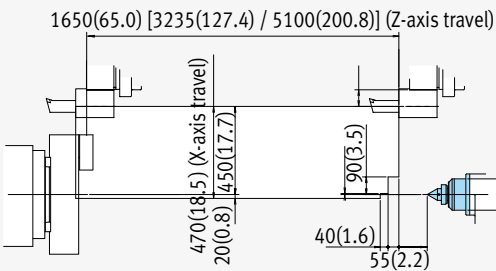
PUMA 600M/700M/800M [LM/XLM]

Unit : mm (inch)

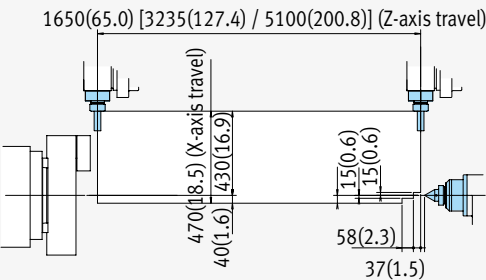
OD Tool Holder



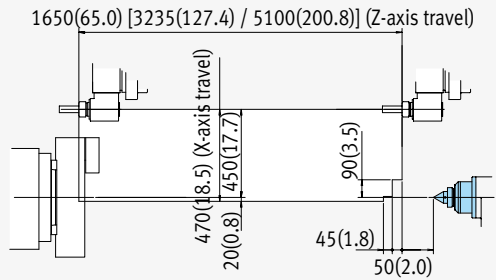
ID Tool Holder



Straight Milling Unit



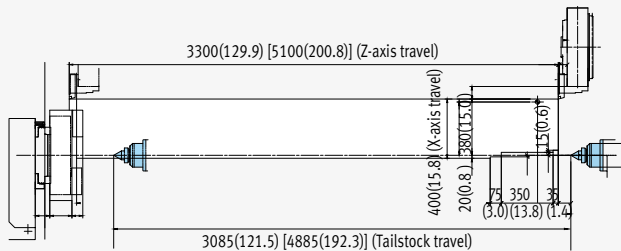
Angular Milling Unit



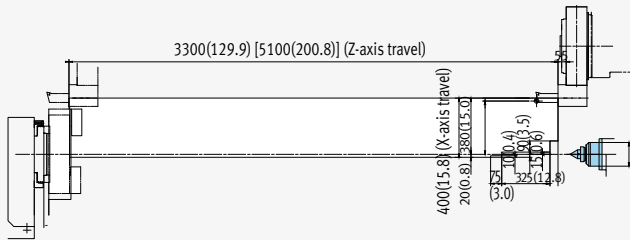
PUMA 600LY/700LY/800LY [XLV]

Unit : mm (inch)

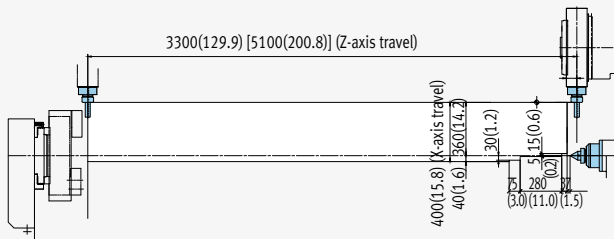
OD Tool Holder



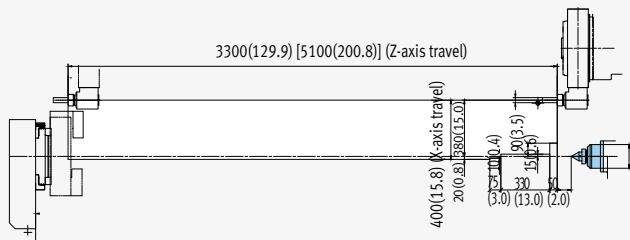
ID Tool Holder



Straight Milling Unit



Angular Milling Unit



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| Description | | Unit | PUMA 600[L/XL] | PUMA 600M[LM/XLM] | PUMA 600LY[XLY] |
|--------------------|---|----------|------------------------------------|--|--|
| Capacity | Swing over bed | mm(inch) | 1030(40.6) [1030(40.6)/1140(44.9)] | | 1140(44.9) |
| | Swing over saddle | mm(inch) | 800(31.5) [800(31.5)/1000(39.4)] | | 1000(39.4) |
| | Recom. turning diameter | mm(inch) | 600(23.6) | | 700(27.6) |
| | Max. turning diameter | mm(inch) | 900(35.4) | | 750(29.5) |
| | Max. turning length | mm(inch) | 1600(63) [3200(126)/5050(199)] | | 3250(128) [5050(199)] |
| | Chuck size | inch | 18 | | |
| | Bar working diameter | mm(inch) | 117(4.6) | | |
| Travels | Travel distance | X-axis | mm(inch) | 470(18.5) | |
| | | Y-axis | mm(inch) | - | |
| | | Z-axis | mm(inch) | 1650(65) [3235(127)/5100(201)] | |
| Feedrates | Rapid traverse rate | X-axis | m/min(ipm) | 12(472.4) | |
| | | Y-axis | m/min(ipm) | - | |
| | | Z-axis | m/min(ipm) | 16(630.0) [10(393.7)/10(393.7)] | |
| Main Spindle | Max. spindle speed | | r/min | 1800 | |
| | Main spindle motor power (30min./Cont.) | | kW(hp) | 45/37(60.3/49.6) {75/60(100.1/80.5)} | |
| | Max. spindle torque | | N·m(lbf·ft) | 5419(3996.8) {9025(6656.5)} | |
| | Spindle nose | | ASA | A2-15 | |
| | Spindle bearing diameter (Front) | | mm(inch) | 200(7.9) | |
| | Spindle through hole diameter | | mm(inch) | 152(6.0) | |
| | Min. spindle indexing angle (C-axis) | | deg | - | 0.001 |
| Turret | No. of tool stations | | ea | 12 | |
| | OD tool size | | mm(inch) | 32 x 32 (1.3 x 1.3) | |
| | Max. boring bar size | | mm(inch) | 80 (3.1) | |
| | Turret indexing time (1 station swivel) | | s | 0.25 | |
| | Max. rotary tool speed | | r/min | - | 3000 |
| | Rotary tool motor power (30min) | | kW(hp) | - | 11(14.8) |
| Tailstock | Tailstock travel | | mm(inch) | 1550(61) [3135(123)/4885(192)] | |
| | Quill diameter | | mm(inch) | 160(6.3) [160(6.3)/180(7.1)] | |
| | Quill travel | | mm(inch) | 150(5.9) [150(5.9)/200(7.9)] | |
| | Quill bore taper | | MT | #6 {#6(Dead)} | |
| Power Source | Electric power supply (rated capacity) | | kVA | 64.44 | 68.60 78 |
| Machine Dimensions | Length | | mm(inch) | 5760(226.8) [7360(289.8)/9860(388.2)] | |
| | Width | | mm(inch) | 3145(123.8) [2770(109.1)/3090(121.7)] | |
| | Height | | mm(inch) | 2780(109.4) [2590(102.0)/2770(109.1)] | |
| | Weight | | kg(lb) | 16300(35953) [21800(48060)/25600(56438)] | 16500(36376) [22000(48502)/25800(56879)] 23000(50706) [26000(57320)] |
| Control | NC system | | - | | |

| PUMA 700[L/XL] | PUMA 700M[LM/XLM] | PUMA 700LY[XLY] | PUMA 800[L/XL] | PUMA 800M[LM/XLM] | PUMA 800LY[XLY] | PUMA 800B[LB] |
|--|--|-----------------------------|--|--|-----------------------------|-----------------------------|
| 1030(40.6) [1030(40.6)/1140(44.9)] | | 1140(44.9) | 1030(40.6) [1030(40.6)/1140(44.9)] | | 1140(44.9) | 1030(40.6) |
| 800(31.5) [800(31.5)/1000(39.4)] | | 1000(39.4) | 800(31.5) [800(31.5)/1000(39.4)] | | 1000(39.4) | 800(31.5) |
| 700(27.6) | | | 800(31.5) | | 700(27.6) | 800(31.5) |
| 900(35.4) | | 750(29.5) | 900(35.4) | | 750(29.5) | 900(35.4) |
| 1600(63) [3200(126)/5050(199)] | | 3250(128) [5050(199)] | 1600(63) [3200(126)/5050(199)] | | 3250(128) [5050(199)] | 1600(63) [3200(126)] |
| 24 | | | 32 | | | Order made |
| 164(6.5) | | | Depending on chuck spec. | | | |
| 470(18.5) | | 400(15.7) | 470(18.5) | | 400(15.7) | 470(18.5) |
| - | | 200 (7.9) | - | | 200 (7.9) | - |
| 1650(65) [3235(127)/5100(201)] | | 3300(130) [5100(201)] | 1650(65) [3235(127)/5100(201)] | | 3300(130) [5100(201)] | 1650(65) [3235(127)] |
| 12(472.4) | | | 12(472.4) | | | |
| - | | 6(236.2) | - | | 6(236.2) | - |
| 16(630.0) [10(393.7)/10(393.7)] | | 10(393.7) | 16(630.0) [10(393.7)/10(393.7)] | | 10(393.7) | 16(630.0) [10(393.7)] |
| 1500 | | | 750 | | | 500 |
| 45/37(60.3/49.6) {75/60(100.1/80.5)} | | | 45/37(60.3/49.6) {75/60(100.1/80.5)} | | | |
| 6605(4871.6) {11004(8116.1)} | | | 6605(4871.6) {11004(8116.1)} | | | |
| A1-15 | | | A1-20 | | | ISO 702-4 N0.20 |
| 240(9.4) | | | 400(15.7) | | | 440(17.3) |
| 181(7.1) | | | 320(12.6) | | | 375(14.8) |
| - | 0.001 | | - | 0.001 {1} | 0.001 | - |
| 12 | | | 12 | | | |
| 32 x 32 (1.3 x 1.3) | | | 32 x 32 (1.3 x 1.3) | | | |
| 80 (3.1) | | | 80 (3.1) | | | |
| 0.25 | | | 0.25 | | | |
| - | 3000 | | - | 3000 | | - |
| - | 11(14.8) | | - | 11(14.8) | | - |
| 1550(61) [3135(123)/4885(192)] | | 3085(121) [4885(192)] | 1550(61) [3135(123)/4885(192)] | | 3085(121) [4885(192)] | 1550(61) [3135(123)] |
| 160(6.3) [160(6.3)/180(7.1)] | | 180(7.1) | 160(6.3) [160(6.3)/180(7.1)] | | 180(7.1) | 160(6.3) |
| 150(5.9) [150(5.9)/200(7.9)] | | 200(7.9) | 200(7.9) | | | 150(5.9) |
| #6 {#6(Dead)} | | | #6 {#6(Dead)} | | | |
| 64.44 | 68.6 | 78 | 64.44 | 68.6 | 78 | 64.44 |
| 5760(226.8) [7360(289.8)/9860(388.2)] | | 7430(292.5) [9898(389.7)] | 5760(226.8) [7360(289.8)/9860(388.2)] | | 7430(292.5) [9898(389.7)] | 5760(226.8) [7360(289.8)] |
| 3145(123.8) [2770(109.1)/3090(121.7)] | | 3090(121.7) | 3145(123.8) [2770(109.1)/3090(121.7)] | | 3090(121.7) | 3145(123.8) [2770(109.1)] |
| 2780(109.4) [2590(102.0)/2770(109.1)] | | 2770(109.1) | 2780(109.4) [2590(102.0)/2770(109.1)] | | 2770(109.1) | 2780(109.4) [2590(102.0)] |
| 16300(35953) [21800(48060)/25800(56879)] | 16500(36376) [21800(48060)/26000(57320)] | 23000(50706) [26000(57320)] | 16300(35953) [21800(48060)/25800(56879)] | 16500(36376) [22000(48502)/26000(57320)] | 23000(50706) [26000(57320)] | 16300(35953) [21800(48060)] |

FANUC 32i

* { } : Option

NC unit specifications

● Standard ○ Option X N/A

Basic Information

Basic Structure
Cutting
Performance

Detailed Information

Options
Applications
Capacity Diagram
Specifications

Customer Support Service

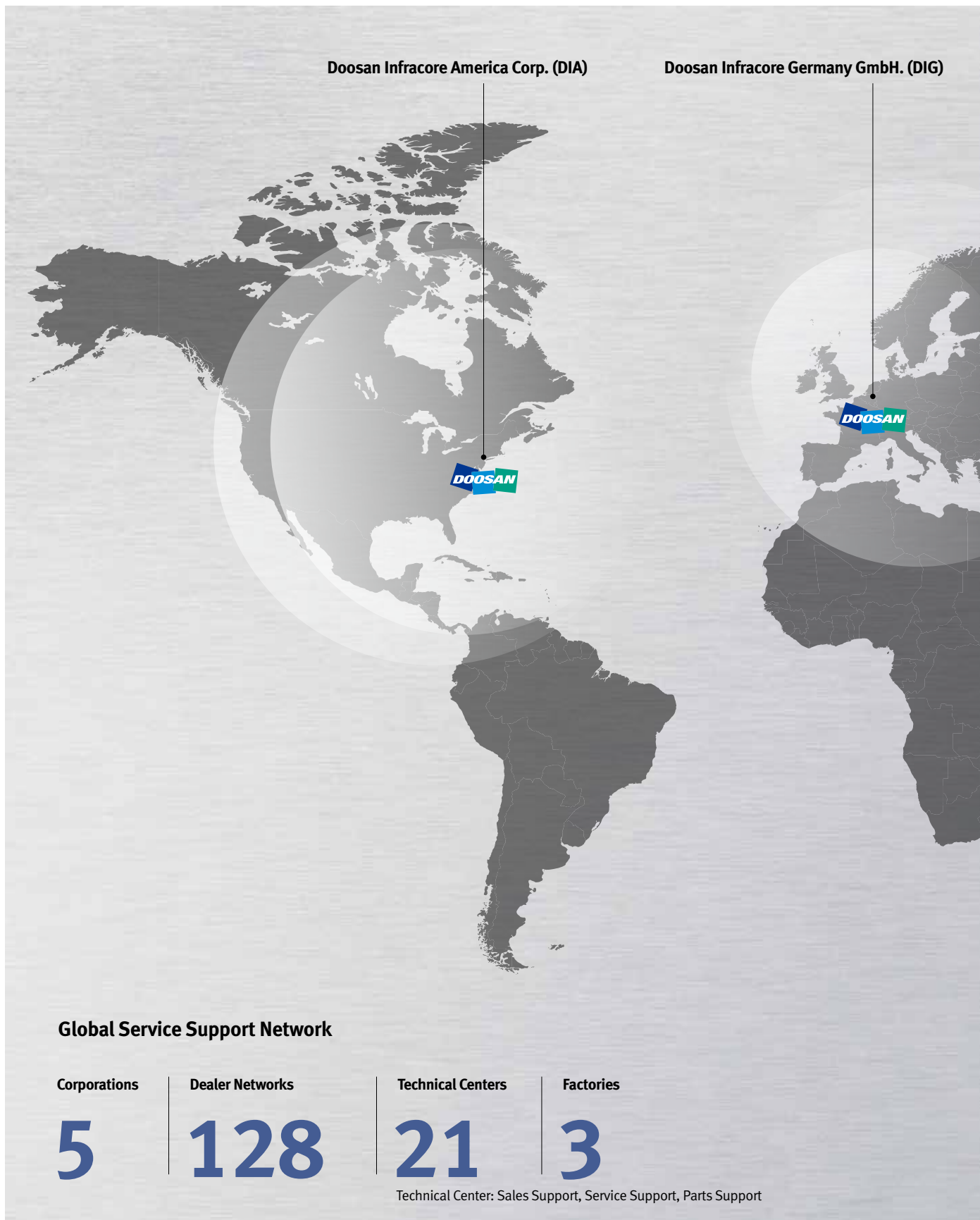


| Description | | | | 2-axis | M | Y |
|-------------|-------------------------|--|------------------------------|--------|----------|------------|
| 1 | Controlled axis | Controlled axes | | 2(X,Z) | 3(X,Z,C) | 4(X,Z,C,Y) |
| 2 | | Simultaneously controlled axes | | 2 axes | 3 axes | 4 axes |
| 3 | | Cs contouring control | | X | ● | ● |
| 4 | | Torque control | | ● | ● | ● |
| 5 | | HRV2 control | | ● | ● | ● |
| 6 | | Inch/metric conversion | | ● | ● | ● |
| 7 | | Stored stroke check 1 | | ● | ● | ● |
| 8 | | Stored stroke check 2,3 | | ○ | ○ | ○ |
| 9 | | Stored limit check before move | | ○ | ○ | ○ |
| 10 | | Chamfering on/off | | ● | ● | ● |
| 11 | | Unexpected disturbance torque detection function | | ● | ● | ● |
| 12 | | Position switch | | ● | ● | ● |
| 13 | Operation | DNC operation | Included in RS232C interface | ● | ● | ● |
| 14 | | DNC operation with memory card | | ● | ● | ● |
| 15 | | Tool retract and recover | | ○ | ○ | ○ |
| 16 | | Wrong operation prevention | | ● | ● | ● |
| 17 | | Dry run | | ● | ● | ● |
| 18 | | Single block | | ● | ● | ● |
| 19 | | Reference position shift | | ● | ● | ● |
| 20 | | Handle interruption | | ○ | ○ | ○ |
| 21 | | Incremental feed | x1,x10,x100 | ● | ● | ● |
| 22 | | Manual handle retrace | | ○ | ○ | ○ |
| 23 | | Active block cancel | | ○ | ○ | ○ |
| 24 | Interpolation functions | Nano interpolation | | ● | ● | ● |
| 25 | | Linear interpolation | | ● | ● | ● |
| 26 | | Circular interpolation | | ● | ● | ● |
| 27 | | Polar coordinate interpolation | | X | ● | ● |
| 28 | | Cylindrical interpolation | | X | ● | ● |
| 29 | | Helical interpolation | | X | ○ | ● |
| 30 | | Thread cutting, synchronous cutting | | ● | ● | ● |
| 31 | | Multi threading | | ● | ● | ● |
| 32 | | Thread cutting retract | | ● | ● | ● |
| 33 | | Continuous threading | | ● | ● | ● |
| 34 | | Variable lead thread cutting | | ● | ● | ● |
| 35 | | Circular thread cutting | | ○ | ○ | ○ |
| 36 | | Polygon machining with two spindles | | X | ○ | ○ |
| 37 | | High-speed skip | Input signal is 8 points. | ○ | ○ | ○ |
| 38 | | 2nd reference position return | G30 | ● | ● | ● |
| 39 | | 3rd/4th reference position return | | ○ | ○ | ○ |
| 40 | Feed function | Override cancel | | ● | ● | ● |
| 41 | | AI contour control I | | ○ | ○ | ● |
| 42 | | AI contour control II | | ○ | ○ | ○ |
| 43 | | Rapid traverse block overlap | | ● | ● | ● |

● Standard ○ Option X N/A

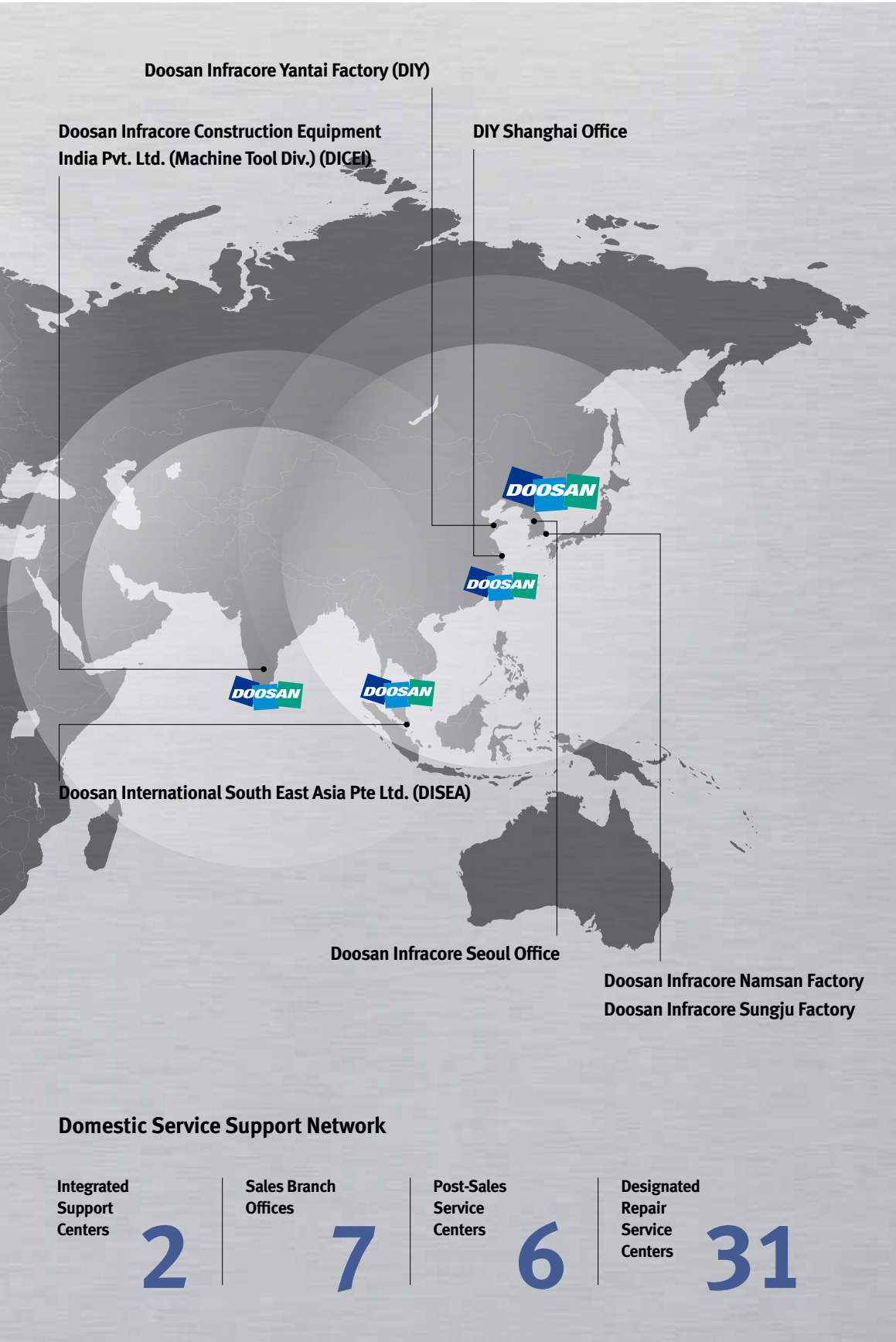
| Description | | | | 2-axis | M | Y |
|-------------|----------------------------------|--|--------------------------------|--------|---|---|
| 44 | Program input | Optional block skip | 9 pieces | ● | ● | ● |
| 45 | | Absolute/incremental programming | Combined use in the same block | ● | ● | ● |
| 46 | | Diameter/Radius programming | | ● | ● | ● |
| 47 | | Automatic coordinate system setting | | ● | ● | ● |
| 48 | | Workpiece coordinate system | G52 - G59 | ● | ● | ● |
| 49 | | Workpiece coordinate system preset | | ○ | ○ | ○ |
| 50 | | Addition of workpiece coordinate system | 48 pairs | ○ | ○ | ○ |
| 51 | | Direct drawing dimension programming | | ● | ● | ● |
| 52 | | G code system | A | ● | ● | ● |
| 53 | | G code system | B/C | ● | ● | ● |
| 54 | | Chamfering/ Corner R | | ○ | ○ | ○ |
| 55 | | Custom macro | | ● | ● | ● |
| 56 | | Addition of custom macro common variables | #100 - #199, #500 - #999 | ○ | ○ | ○ |
| 57 | | Interruption type custom macro | | ○ | ○ | ○ |
| 58 | | Canned cycle | | ● | ● | ● |
| 59 | | Multiple repetitive cycles | G70~G76 | ● | ● | ● |
| 60 | | Multiple repetitive cycles II | Pocket profile | ● | ● | ● |
| 61 | | Canned cycle for drilling | | ● | ● | ● |
| 62 | | Automatic corner override | | ○ | ○ | ○ |
| 63 | | Coordinate system shift | | ● | ● | ● |
| 64 | | Direct input of coordinate system shift | | ● | ● | ● |
| 65 | | Pattern data input | | ○ | ○ | ○ |
| 66 | Operation Guidance Function | EZ Guidei(Conversational Programming Solution) | | ● | ● | ● |
| 67 | | Easy Operation package | | ● | ● | ● |
| 68 | Auxiliary/Spindle speed function | Constant surface speed control | | ● | ● | ● |
| 69 | | Spindle override | 0 - 150% | ● | ● | ● |
| 70 | | Spindle orientation | | ● | ● | ● |
| 71 | | Rigid tap | | ● | ● | ● |
| 72 | | Arbitrary speed threading | | ○ | ○ | ○ |
| 73 | Tool function/Tool compensation | Tool offset pairs | 64-pairs | ● | ● | ● |
| 74 | | | 99-pairs | ○ | ○ | ○ |
| 75 | | | 200-pairs | ○ | ○ | ○ |
| 76 | | | 400-pairs | ○ | ○ | ○ |
| 77 | | | 499-pairs | ○ | ○ | ○ |
| 78 | | | 999-pairs | ○ | ○ | ○ |
| 79 | | Tool offset | | ● | ● | ● |
| 80 | | Y-axis offset | | X | X | ● |
| 81 | | Tool radius/Tool nose radius compensation | | ● | ● | ● |
| 82 | | Tool geometry/wear compensation | | ● | ● | ● |
| 83 | | Automatic tool offset | | ● | ● | ● |
| 84 | | Direct input of offset value measured B | | ● | ● | ● |
| 85 | | Tool life management | | ● | ● | ● |
| 86 | Accuracy compensation function | Backlash compensation for each rapid traverse and cutting feed | | ● | ● | ● |
| 87 | Editing operation | Part program storage size & Number of registerable programs | 640M(256KB)_500 programs | ● | ● | ● |
| 88 | | | 1280M(512KB)_1000 programs | ○ | ○ | ○ |
| 89 | | | 2560M(1MB)_1000 programs | ○ | ○ | ○ |
| 90 | | | 5120M(2MB)_1000 programs | ○ | ○ | ○ |
| 91 | | Program protect | | ● | ● | ● |
| 92 | Data input/output | Password function | | ● | ● | ● |
| 93 | | Playback | | ○ | ○ | ○ |
| 94 | | Fast data server | | ○ | ○ | ○ |
| 95 | | External data input | | ○ | ○ | ○ |
| 96 | | Memory card input/output | | ● | ● | ● |
| 97 | Interface function | USB memory input/output | | ● | ● | ● |
| 98 | | Automatic data backup | | ● | ● | ● |
| 99 | | Embedded Ethernet | | ● | ● | ● |
| 100 | Others | Fast Ethernet | | ○ | ○ | ○ |
| 101 | | Display unit | 10.4" color LCD | ● | ● | ● |
| 102 | | Robot interface | with PMC I/O module | ○ | ○ | ○ |
| 103 | | | with PROFIBUS-DP | ○ | ○ | ○ |

Responding to Customers Anytime, Anywhere



Doosan Machine Tools' Global Network, Responding to Customer's Needs nearby, Anytime, Anywhere

Doosan machine tools provides a system-based professional support service before and after the machine tool sale by responding quickly and efficiently to customers' demands. By supplying spare parts, product training, field service and technical support, we can provide top class support to our customers around the world.



Customer Support Service

We help customers to achieve success by providing a variety of professional services from pre-sales consultancy to post-sales support.

Supplying Parts



- Supplying a wide range of original Doosan spare parts
- Parts repair service

Field Services



- On site service
- Machine installation and testing
- Scheduled preventive maintenance
- Machine repair

Technical Support



- Supports machining methods and technology
- Responds to technical queries
- Provides technical consultancy

Training



- Programming / machine setup and operation
- Electrical and mechanical maintenance
- Applications engineering

Main Specifications

PUMA 600/700/800 series



| Description | UNIT | PUMA 600 series [LY/LXY] | PUMA 700 series [LY/LXY] | PUMA 800 series [LY/LXY] | PUMA 800B[LB] |
|-------------------------------------|----------|---|-----------------------------|-----------------------------|---------------------------|
| Max. turning diameter | mm(inch) | 900 (35.4) [750 (29.5)] | | | 900 (35.4) |
| Max. turning length (Std./L/XL) | mm(inch) | 1600/3200/5050 (63/126/199) [3250/5050 (128/199)] | | | 1600 (63) [3200 (126)] |
| Chuck size | inch | 18 | 24 | 32 | Order made |
| Spindle through hole diameter | mm(inch) | 152 (6.0) | 181 (7.1) | 320 (12.6) | 375 (14.8) |
| Max. spindle speed | r/min | 1800 | 1500 | 750 | 500 |
| Max. spindle power (30min/Cont.) | kW(hp) | 45/37 (60.3/49.6) {75/60 (100.1/80.5)} | | | |
| NC system | - | FANUC 32i | | | |



Doosan Machine Tools

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* The specifications and information above-mentioned may be changed without prior notice.